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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,016	03/15/2002	John M. Belcea	43487	3370

7590 10/24/2003

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EXAMINER

NGUYEN, VAN KIM T

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 10/24/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,016

Applicant(s)

BELCEA, JOHN M.

Examiner

Van Kim T. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10, 11, 13-18, and 22-23 is/are rejected.
- 7) ☒ Claim(s) 7-9, 12, 19-21 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to communications filed on September 22, 2003.

Applicant's arguments with respect to claims 1-6, 10-11, 13-18, 22, and 23 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6, 10-11, 13-18, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallinckrodt et al (US 6,108,561), in view of Honkasalo et al (US 6,219,343), and further in view of Haartsen (US 6,574,266).

Regarding claims 1-3, 10-11, 13-15, and 22-23, as shown in Figures 1-9, Mallinckrodt discloses a method for determining a transmission power over a link between a source (Fig. 1: 12, 14, 16, 18, 20; col. 4: line 58 – col. 5: line 34) and a destination nodes (Fig. 1: 22, col. 5: line 35-41) in a ad-hoc wireless network (both source and destination nodes may be mobile, col. 5: line 30-34 and 40-41), comprising: computing path loss in the link (col. 10: lines 54; and col. 11: line 7 – col. 12: line 41); determining a noise factor representative of noise at the destination node based on a level of correctness (col. 10: lines 53-62; and col. 12: line 43 – 50); and calculating at least one of the power level at which the data is transmitted over the link from the

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source node to the destination node based on the path loss and noise factor (col. 12: line 55 – col. 13: line 8).

Regarding claims 4-6 and 16-18, Mallinckrodt also discloses the path loss and noise factor are computed dynamically as conditions of the link change over time, and the noise factor increases or decreases an estimated noise factor based on each of message information for a plurality of messages (Figs. 8-9; cols. 11-12).

2. However, Mallinckrodt does not call for calculating at least one of the rates at which the data is transmitted over the link.

3. As shown in Figures 1-4, Honkasalo teaches determining transmit rate for a packet data transmission based calculated power (col. 2: line 52 – col. 3: line 6; and col. 6: lines 2 – col. 7: line 47).

4. Since it is highly desirable to improve the performance of wireless networks and ensure that each member of the network transmit the least power necessary to maintain a good quality link, power control within a network is critical. Power control not only helps prolongs battery life for the mobile units, but also can dramatically enhance the signal-to-interference-plus-noise ratio (SNIR) in the system, and thus improve its performance and capacity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Honkasalo's method of determining transmission rate in Mallinckrodt's power control system, motivated by the needs to maintain a good transmission link and preserve mobile units' energy levels.

5. As shown, the combination of Mallinckrodt and Honkasalo disclose a method for determining at least one of the power level and rate at which data is transmitted over a link

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between source and destination nodes in a wireless network, comprising all the limitations as claimed in claims 1-6, 10-11, 13-18, and 22-23 of the instant application.

6. However, the combination of Mallinckrodt and Honkasalo does not call for the wireless network to be an ad-hoc wireless network.

7. As shown in Figs. 1-9, Haartsen teaches a system and method for establishing ad-hoc communication sessions between communication terminals in a CDMA wireless communication system (cols. 1-13, esp. col. 2: line 6 – col. 4: line 25).

8. Since it is highly desirable to efficiently utilize the radio spectrum/channels in a wireless network, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Haartsen's method of establishing ad-hoc communications in the combination of Mallinckrodt and Honkasalo's wireless network, the motivation being to form direct "ad hoc" connections between nodes which do not involve relaying by a base station all the information to be exchanged, and thus increase spectral efficiency, while still obtaining fast connection setup with low power consumption.

Allowable Subject Matter

9. Claims 7-9, 12, 19-21, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(See previous Office Action for reasons for allowance.)

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Elliott (US 6,456,599), Distribution of Potential Neighbor Information

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Through an Ad Hoc Network; Kondylis et al (US 6,621,805), Method and Apparatus for Multicasting Real-Time Variable Bit-Rate Traffic in Wireless Ad-Hoc Networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Van Kim T. Nguyen whose telephone number is 703-305-7692.

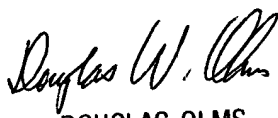
The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on 703-305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

vkn

October 8, 2003


DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600